

- a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks, and pipes should be considered.
- b. Evaluate the effectiveness of present facilities and procedures and state when they become operational.
- c. Describe facilities and procedures needed for effective preventive and contingency plans.
- d. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule contingent on interim and final dates when they will be constructed, implemented, or operational.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	4B190703003
Discharger	United States Navy (Navy)
Name of Facility	San Clemente Island Wastewater Treatment Plant
Facility Address	Navy Auxiliary Landing Field
	San Clemente Island, CA
	Los Angeles County
Facility Contact, Title and Phone	Thomas Niday, Utilities System Operator, (619) 524-9125
Authorized Person to Sign and Submit Reports	Jason Golumbskie-Jones, Installation Environmental Program Director, (619) 545-3429
Mailing Address	Naval Base Coronado, PO Box 357088, San Diego, CA 92135
Billing Address	SAME
Type of Facility	Federally-owned Treatment Works (FOTW)
Major or Minor Facility	Minor
Threat to Water Quality	1
Complexity	B
Pretreatment Program	No
Recycling Requirements	Producer and User
Facility Permitted Flow	0.025 million gallons per day (mgd)
Facility Design Flow	0.06 mgd – Secondary Treatment Plant
	0.03 mgd – Tertiary Treatment Plant
Watershed	San Clemente Island Watershed
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean waters

- A. The United States Navy (hereinafter Discharger or Navy) is the owner and operator of the San Clemente Island Wastewater Treatment Plant (hereinafter Facility or SCI WWTP), a Federally-Owned Treatment Works (FOTW).

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B. The Facility discharges wastewater to the Pacific Ocean, a water of the United States. The Discharger was previously regulated by Order No. R4-2013-0111 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0110175 adopted on July 11, 2013, expired on August 30, 2018, and administratively extended until the adoption of this Order.

Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

- C. The Discharger filed a report of waste discharge and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on March 02, 2018. Supplemental information was requested on March 07 and May 16, 2018 and received on May 02 and June 19, 2018. The application was deemed complete on July 11, 2018. A site visit was conducted on August 29, 2018, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.
- D. Regulations at Title 40 of the Code of Federal Regulations (40 CFR) § 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. However, pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

A. Description of Wastewater Treatment and Controls

- 1. The Discharger owns and operates the SCI WWTP, located approximately 1,500 feet east of Wilson Cove and discharges a maximum monthly average of 0.025 mgd of treated wastewater to the Pacific Ocean, a water of the United States. This maximum permitted flow is a result of discussions between the Navy and the State Water Board regarding discharge to a designated Area of Special Biological Significance (ASBS).
- 2. The facility receives sewage from a separated sanitary sewer serving a population of approximately 500 people, except in cases when extra personnel are present due to training on the island. In those cases, wastewater from the portable toilets may be delivered directly to the headworks of the treatment system. Only residential wastes are discharged to the sanitary sewer and all industrial drains have been capped with concrete. Industrial wastes (used oil, used antifreeze, used batteries, etc.) are stored onsite and are manifested off the island via barge and properly disposed of in accordance with federal and state regulations. There is no industry on the island and most of the industrial waste generated is associated with facility and vehicle maintenance. Septage from the 22 septic tanks on the island may also be delivered directly to the headworks on an emergency basis to avoid or mitigate overflows. The septic tanks are routinely pumped by a contractor and septage transported offsite by barge to a City of San Diego treatment works pump station.
- 3. The Facility's treatment system consists of a package-type secondary-23 wastewater treatment plant, built in 1979, and a recently installed package-type tertiary wastewater treatment plant. The influent flows through a comminutor and then into a primary equalization tank. The two plants are hydraulically connected at this point and the flow may be directed to either plant once the tertiary plant is in operation. The secondary-23 treatment plant is currently the only treatment plant in operation at the Facility. It has a design capacity of 0.060 million gallons per day (mgd) and consists of comminution, equalization, activated sludge extended aeration, clarification, chlorination, and dechlorination. The tertiary treatment plant is not currently in operation but the Discharger anticipates having the treatment plant online within the next year. It has a design capacity of 0.030 mgd and consists of the Smith and Loveless Titan Membrane Bio Reactor Package, which includes fine screening, flow equalization, sludge storage, anoxic zones, an aeration zone including an immersion-type membrane module of flat sheet polyvinylidene difluoride (PVDF), a filtration zone, chlorine contact, and dechlorination. The membrane is the Membray® brand manufactured by Toray and is listed as an approved technology by the State Water Resources Control Board, Division

of Drinking Water, in their *Alternative Treatment Technology Report for Recycled Water* published in 2014. Treated wastewater, prior to dechlorination, is pumped to either a tertiary or a secondary-23 recycled water storage tank, depending on water quality. The sludge is either dried in drying beds or bagged for dewatering over plastic pallets. The dried solids are sent to the landfill on San Clemente Island for disposal and regulated under Order No. R4-2010-0045, adopted by the Regional Water Board on March 04, 2010. A process flow diagram of the facility consisting of both treatment plants is depicted in Attachment C.

4. The Navy intends to operate the tertiary treatment plant exclusively, except during startup and maintenance of the tertiary plant, and during emergencies. The secondary plant will only be operated in emergency situations or when the tertiary plant must be shut down for maintenance.
5. Consistent with the ASBS exclusion area, this Order authorizes the Navy to discharge a maximum monthly average of 0.025 mgd of treated wastewater to the Pacific Ocean.

B. Discharge Points and Receiving Waters

The Facility has two discharge points located 250 feet east of the Facility on the northeast end of the island approximately 1,000 feet south of Wilson Cove. Discharge Point 001 is a shoreline discharge and has been decommissioned. Discharge Point 002 is a submerged, 450-foot long, 3.6-inch diameter, outfall located 70 feet below the ocean's surface. The discharge point is within the ASBS exclusion area because it is within a 1,000-foot radius from the original end-of-pipe (State Water Board Resolution 77-11).

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations/Discharge Specifications contained in the existing Order for discharges from Discharge Point 002 (Monitoring Location EFF-001) and representative monitoring data from the term of the previous Order are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation				Monitoring Data (From January 2013 – March 2018)		
		Average Monthly	Average Weekly	Maximum Daily	Instant-aneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Conventional/Non-Conventional								
Biochemical Oxygen Demand (BOD)	mg/L	30	45	--	--	44.1	--	44.1
Total Suspended Solids (TSS)	mg/L	30	45	--	--	18.3	--	18.3
Oil & Grease	mg/L	25	40	--	75	1.51	--	1.51
Settleable Solids	mL/L	1.0	1.5	--	3.0	<1	--	<1
Nitrate-N	mg/L	--	--	--	--	45.9	--	45.9
Nitrite-N	mg/L	--	--	--	--	0.592	--	0.592
pH	pH Unit	6.0 - 9.0				7.71	--	7.71
Temperature	°F	--	--	--	100	74.5	--	74.5
Turbidity	NTU	75	100	--	225	9.56	--	9.56
Marine Aquatic Life Protection								
Arsenic	µg/L	--	--	--	--	8.07	--	8.07
Cadmium	µg/L	--	--	--	--	<0.2	--	<0.2
Chromium (VI)	µg/L	--	--	--	--	0.248 (DNQ)	--	0.248 (DNQ)

Parameter	Units	Effluent Limitation				Monitoring Data (From January 2013 – March 2018)		
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Copper	µg/L	--	--	--	--	251	--	251
Lead	µg/L	--	--	--	--	0.55 (DNQ)	--	0.55 (DNQ)
Mercury	µg/L	--	--	--	--	0.107 (DNQ)	--	0.107 (DNQ)
Nickel	µg/L	--	--	--	--	8.0	--	8.0
Selenium	µg/L	--	--	--	--	1.05	--	1.05
Silver	µg/L	--	--	--	--	<0.2	--	<0.2
Zinc	µg/L	--	--	--	--	2270	--	2270
Cyanide	µg/L	--	--	--	--	27.1	--	27.1
Total Residual Chlorine	µg/L	274	--	100	8200	15.4	--	15.4
Ammonia-N	mg/L	--	--	--	--	6.4	--	6.4
Phenolic Compounds (non-chlorinated)	µg/L	--	--	--	--	<11	--	<11
Phenolic Compounds (chlorinated)	µg/L	--	--	--	--	<11	--	<11
Endosulfan	µg/L	--	--	--	--	0.03 (DNQ)	--	0.03 (DNQ)
Endrin	µg/L	--	--	--	--	<0.011	--	<0.011
Hexachlorocyclohexane (HCH)	µg/L	--	--	--	--	0.48	--	0.48
Chronic Toxicity	TUc	--	--	137	--	270	--	270
Radioactivity								
Gross Alpha	pCi/L	--	--	--	--	12.4	--	12.4
Gross Beta	pCi/L	--	--	--	--	10.6	--	10.6
Human Health Toxicants – Noncarcinogens								
Acrolein	µg/L	--	--	--	--	<2	--	<2
Antimony	µg/L	--	--	--	--	1.91	--	1.91
Bis (2-Chloroethoxy) methane	µg/L	--	--	--	--	<11	--	<11
Bis (2-Chloroisopropyl) ether	µg/L	--	--	--	--	<11	--	<11
Chlorobenzene	µg/L	--	--	--	--	<1	--	<1
Chromium III	µg/L	--	--	--	--	0.719 (DNQ)	--	0.719 (DNQ)
Di-n-Butyl Phthalate	µg/L	--	--	--	--	<11	--	<11
Dichlorobenzenes	µg/L	--	--	--	--	<11	--	<11
Diethyl phthalate	µg/L	--	--	--	--	<11	--	<11
Dimethyl phthalate	µg/L	--	--	--	--	<11	--	<11
4,6-dinitro-2-methylphenol	µg/L	--	--	--	--	<11	--	<11
2,4-dinitrophenol	µg/L	--	--	--	--	<11	--	<11
Ethylbenzene	µg/L	--	--	--	--	<2	--	<2
Fluoranthene	µg/L	--	--	--	--	<11	--	<11
Hexachlorocyclopentadiene	µg/L	--	--	--	--	<11	--	<11
Nitrobenzene	µg/L	--	--	--	--	<11	--	<11

Parameter	Units	Effluent Limitation				Monitoring Data (From January 2013 – March 2018)		
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Thallium	µg/L	--	--	--	--	<0.2	--	<0.2
Toluene	µg/L	--	--	--	--	<1	--	<1
Tributyltin	µg/L	--	--	--	--	3.9	--	3.9
1,1,1-trichloroethane	µg/L	--	--	--	--	<1	--	<1
Human Health Toxicants - Carcinogens								
Acrylonitrile	µg/L	--	--	--	--	<2	--	<2
Aldrin	µg/L	--	--	--	--	<5.4	--	<5.4
Benzene	µg/L	--	--	--	--	<20	--	<20
Benzidine	µg/L	--	--	--	--	<42	--	<42
Beryllium	µg/L	--	--	--	--	<0.1	--	<0.1
Bis (2-Chloroethyl) ether	µg/L	--	--	--	--	<11	--	<11
Bis(2-ethylhexyl)-phthalate	µg/L	--	--	--	--	39	--	39
Carbon tetrachloride	µg/L	--	--	--	--	<1	--	<1
Chlordane	µg/L	--	--	--	--	0.034 (DNQ)	--	0.034 (DNQ)
Chlorodibromomethane	µg/L	--	--	--	--	22	--	22
Chloroform	µg/L	--	--	--	--	51	--	51
DDT	µg/L	0.024	--	--	--	<0.01	--	<0.01
1,4-Dichlorobenzene	µg/L	--	--	--	--	<11	--	<11
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	<11	--	<11
1,2-dichloroethane	µg/L	--	--	--	--	<1	--	<1
1,1-dichloroethylene	µg/L	--	--	--	--	<1	--	<1
Dichlorobromomethane	µg/L	--	--	--	--	39	--	39
Dichloromethane	µg/L	--	--	--	--	3.5 (DNQ)	--	3.5 (DNQ)
1,3-dichloropropene	µg/L	--	--	--	--	<1	--	<1
Dieldrin	µg/L	--	--	--	--	<0.011	--	<0.011
2,4-Dinitrotolulene	µg/L	--	--	--	--	<11	--	<11
1,2-Diphenylhydrazine	µg/L	--	--	--	--	<11	--	<11
Halomethanes	µg/L	--	--	--	--	2.8 (DNQ)	--	2.8 (DNQ)
Heptachlor	µg/L	--	--	--	--	0.018 (DNQ)	--	0.018 (DNQ)
Heptachlor epoxide	µg/L	--	--	--	--	0.011 (DNQ)	--	0.011 (DNQ)
Hexachlorobenzene	µg/L	--	--	--	--	<11	--	<11
Hexachlorobutadiene	µg/L	--	--	--	--	<11	--	<11
Hexachloroethane	µg/L	--	--	--	--	<11	--	<11
Isophorone	µg/L	--	--	--	--	<11	--	<11
N-Nitrosodimethylamine	µg/L	--	--	--	--	<11	--	<11
N-Nitrosodi-N-propylamine	µg/L	--	--	--	--	<11	--	<11
N-Nitrosodiphenylamine	µg/L	--	--	--	--	<11	--	<11
Polycyclic Aromatic Hydrocarbons (PAHs)	µg/L	--	--	--	--	<11	--	<11

Parameter	Units	Effluent Limitation				Monitoring Data (From January 2013 – March 2018)		
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Polychlorinated Biphenyls (PCBs)	µg/L	--	--	--	--	<0.54	--	<0.54
TCDD equivalents	µg/L	5.3x10 ⁻⁷	--	--	--	8.96x10 ⁻³	--	8.96x10 ⁻³
1,1,2,2-tetrachloroethane	µg/L	--	--	--	--	<1	--	<1
Tetrachloroethylene	µg/L	--	--	--	--	<1	--	<1
Toxaphene	µg/L	--	--	--	--	<0.54	--	<0.54
Trichloroethylene	µg/L	--	--	--	--	<1	--	<1
1,1,2-trichloroethane	µg/L	--	--	--	--	<1	--	<1
2,4,6-Trichlorophenol	µg/L	--	--	--	--	<11	--	<11
Vinyl chloride	µg/L	--	--	--	--	<1	--	<1

D. Compliance Summary

Table F-3. List of Violations for SCI WWTP

Violation ID	Occurrence Date	Violation Description
983795	09/09/13	Exceedance of pH Instantaneous Minimum
965394	10/08/13	Exceedance of pH Instantaneous Minimum
965395	10/09/13	Exceedance of pH Instantaneous Minimum
1007889	09/08/14	Exceedance of pH Instantaneous Minimum
990921	10/20/14	Exceedance of pH Instantaneous Minimum
990923	11/23/14	Exceedance of pH Instantaneous Minimum
990922	11/25/14	Exceedance of pH Instantaneous Minimum
990924	11/28/14	Exceedance of pH Instantaneous Minimum
990919	03/16/15	Exceedance of pH Instantaneous Minimum
994486	05/11/15	Exceedance of pH Instantaneous Minimum
1023344	04/04/16	Exceedance of pH Instantaneous Minimum
1023404	07/31/16	Exceedance of TCDD equivalents Monthly Average
1023405	07/31/16	Exceedance of TCDD equivalents Monthly Average
1020533	10/02/16	Exceedance of total residual chlorine instantaneous maximum
1020534	12/05/16	Exceedance of Minimum % Removal BOD

The pH exceedances were the result of improper sodium bisulfite dosing during dechlorination. Staff received additional training and began closer monitoring of the pH. The last low pH exceedance occurred in April 2016.

The total residual chlorine concentration was reported as 15.4 mg/L and the instantaneous maximum final effluent limitation is 8.2 mg/L. The sodium bisulfite dose was increased to address the spike in total residual chlorine. There were no exceedances of the instantaneous maximum water quality objective in the annual receiving water monitoring conducted in August 2016.

In January of 2015, the Discharger failed to collect effluent samples for fecal coliform and *Enterococcus*. Staff was notified of the uncollected samples and additional training was provided to staff.

In April 2015, the Chief Plant Operator (CPO) had improper grade level certification for the wastewater treatment plant. The Discharger has since provided the Regional Water Board with documentation that the CPO now has the proper grade level certification.

The following table lists the violations of the 137 TUC chronic toxicity trigger. The Discharger conducted the accelerated monitoring as required in Order No. R4-2013-0111.

Table F-4. Chronic Toxicity Violation Summary SCI WWTP

Test Date	Test Species	Endpoint	NOEC	TUC	EC/IC ₂₅	%Effect at IWC
10/26/15	<i>Macrocystis pyrifera</i>	Growth	0.37	270	>2.9	0.86%
07/05/16	<i>Macrocystis pyrifera</i>	Growth	0.37	270	>2.9	5.09%
08/29/16	<i>Macrocystis pyrifera</i>	Growth	0.37	270	>2.9	2.54%

E. Planned Changes

The Discharger anticipates commencing operation of the tertiary treatment plant toward the end of 2019. Once online, the tertiary treatment plant will be operated exclusively, except during periods of high flows to the treatment system, and during start-up and maintenance of the tertiary treatment plant.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the United States Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

- 1. Water Quality Control Plan.** The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994, that has been occasionally amended and designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean and other Receiving Waters addressed through the plan. Requirements in this Order implement the Basin Plan including its subsequent amendments.

Beneficial uses applicable to the Pacific Ocean around San Clemente Island are as follows:

Table F-5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Pacific Ocean San Clemente Island Los Angeles Coastal Feature	<p><u>Existing:</u> Water Contact Recreation (REC-1), Non-contact Water Recreation (REC-2), Navigation (NAV), Commercial and Sport Fishing (COMM), Marine Habitat (MAR), Wildlife Habitat (WILD) (Marine habitats of the Channel Islands and Mugu Lagoon serve as pinniped haul-out areas for one or more species, i.e. sea lions), Preservation of Biological Habitats (BIOL; Area of Special Biological Significance), Rare, Threatened, or Endangered Species (RARE), Shellfish Harvesting (SHELL).</p> <p><u>Potential:</u> Spawning, Reproduction, and/or Early Development (SPWN)</p>

2. **California Thermal Plan.** The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) on January 7, 1971, and amended this plan on September 18, 1975. This plan contains temperature objectives for coastal and inland surface waters. The Thermal Plan defines the discharge from the Facility as an existing discharge of elevated temperature waste to coastal waters because the discharge is currently taking place and the temperature of the discharge is higher than the natural temperature of the receiving coastal waters. For coastal waters, the Thermal Plan requires elevated temperature wastes to comply with limitations necessary to assure protection of the beneficial uses and areas of special biological significance. This Order includes temperature objectives for coastal waters; therefore, the requirements of this Order implement the Thermal Plan.

6. **California Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, and 2012. The State Water Board adopted the latest amendment on May 06, 2015, and became effective on January 28, 2016. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the state to be protected as summarized below:

Table F-6. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
002	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish spawning and shellfish harvesting

To protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the 2015 Ocean Plan.

7. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes (40 CFR § 131.21, 65 Federal Register 24641 (April 27, 2000)). Under the revised

regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

8. **Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA and California Ocean Plan. Individual pollutant restrictions consist of technology-based effluent limitations (TBELs) and water quality-based effluent limitations (WQBELs). The TBELs consist of restrictions on BOD, TSS, pH, and percent removal of BOD and TSS, which implement the minimum applicable federal technology-based requirements. In addition, effluent limitations more stringent than federal technology-based requirements consisting of restrictions on oil and grease, settleable solids, and turbidity are necessary to implement State treatment standards in Table 2 of the 2015 Ocean Plan. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs for chronic toxicity, copper, zinc, total residual chlorine, and TCDD equivalents, have been scientifically derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law and are the applicable federal water quality standards. All beneficial uses and WQOs contained in the Basin Plan and the Ocean Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any WQOs and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR § 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

9. **Antidegradation Policy.** Federal regulation 40 CFR § 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR § 131.12 and State Water Board Resolution 68-16 and is described in further detail in Section V.D.2. of this Fact Sheet.

10. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and 40 CFR § 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. The applicability of these requirements to this Order is discussed in detail in section V.D.1. of this Fact Sheet.

The accompanying monitoring and reporting program requires continued data collection and if monitoring data show reasonable potential for a constituent to cause or contribute to an exceedance of water quality standards, the Order will be reopened to incorporate WQBELs. Such an approach ensures that the discharge will adequately protect water quality standards for designated beneficial uses and conform with antidegradation policies and antibacksliding provisions.

11. **Endangered Species Act (ESA) Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California ESA (Fish and Game Code, §§ 2050 to 2097) or the Federal ESA (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state, including protecting rare and endangered species. The Discharger is responsible for meeting all requirements of the applicable ESA.
12. **Monitoring and Reporting.** 40 CFR § 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and state requirements. This MRP is provided in Attachment E.
13. **Water Recycling.** In accordance with statewide policies concerning water reclamation¹, this Regional Water Board strongly encourages, wherever practicable, water recycling, water conservation, and use of storm water and dry-weather urban runoff. The Discharger shall investigate the feasibility of recycling, conservation, and/or alternative disposal methods of wastewater (such as groundwater injection), and/or use of storm water and dry-weather urban runoff.
14. **Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR § 122.41, and additional conditions applicable to POTWs in accordance with 40 CFR § 122.42, are provided in Attachment D. The Regional Water Board and USEPA have also included in this Order Special Provisions applicable to the Discharger. The rationale for the Special Provisions contained in this Order is provided in the attached Fact Sheet.

D. Impaired Water Bodies on the CWA section 303(d) List

The State Water Board proposed the California 2012 Integrated Report from a compilation of the adopted Regional Water Boards' Integrated Reports containing CWA section 303(d) List of Impaired Waters and section 305(b) Reports following recommendations from the Regional Water Boards and information solicited from the public and other interested persons. The Regional Water Boards' Integrated Reports were used to revise their 2010 303(d) List. On April 08, 2015, the State Water Board adopted the California 2012 Integrated Report. On July 30, 2015, the USEPA approved California's 2012 Integrated Report Section 303(d) List of Impaired Waters requiring Total Maximum Daily Loads (TMDLs) for the Los Angeles Region. On April 06, 2018, the 2014-2016 Integrated Report Section 303(d) List of Impaired Waters was approved by USEPA. The CWA section 303(d) list can be viewed at the following link: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2012.shtml.

E. Other Plans, Policies and Regulations

1. **Secondary Treatment Regulations.** 40 CFR § 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations or to prevent backsliding.
2. **Storm Water.** CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in

¹ See, e.g., CWC sections 13000 and 13550-13557, State Water Board Resolution No. 77-1 (Policy with Respect to Water Reclamation in California), and State Water Board Resolution No. 2009-0011 (Recycled Water Policy).

1990, USEPA promulgated 40 CFR § 122.26 that established requirements for storm water discharges under an NPDES program. To facilitate compliance with federal regulations, in November 1991, the State Water Board issued a statewide general permit, NPDES No. CAS000001: *General Permit for Storm Water Discharges Associated with Industrial Activities*. This permit was amended in September 1992 and reissued on April 17, 1997 in State Water Board Order No. 97-03-DWQ, and superseded by Order No. 2014-0057-DWQ on April 01, 2014, to regulate storm water discharges associated with industrial activity.

General NPDES permit No. CAS000001 is applicable to storm water discharges from the Facility. On July 15, 2016, the Discharger filed a Notice of Intent to comply with the requirements of the *General Permit for Storm Water Discharges Associated with Industrial Activities* Order No. 2014-0057-DWQ. The Discharger developed and currently implements a Storm Water Pollution Prevention Plan (SWPPP) to comply with Order No. 2014-0057-DWQ.

3. **Sewage Sludge/Biosolids Requirements.** Section 405 of the CWA and implementing regulations at 40 CFR § 503 require that producers of sewage sludge/biosolids meet certain reporting, handling, and use or disposal requirements. The State has not been delegated the authority to implement this program; therefore, USEPA is the implementing agency.
4. **Watershed Management.** This Regional Water Board has been implementing a Watershed Management Approach (WMA) to address water quality protection in the Los Angeles Region, as detailed in the Watershed Management Initiative (WMI). The WMI is designed to integrate various surface and ground water regulatory programs while promoting cooperative, collaborative efforts within a watershed. It is also designed to focus limited resources on key issues and use sound science. Information about watersheds in the region can be obtained at the Regional Water Board's website at http://www.waterboards.ca.gov/losangeles/water_issues/programs/regional_program/watershed/index.shtml. The WMA emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with the resources available.

The Regional Water Board has prepared and periodically updates its Watershed Management Initiative Chapter and the latest version was updated December 2007. This document contains a summary of the region's approach to watershed management. It addresses each watershed and the associated water quality problems and issues. It describes the background and history of each watershed, current and future activities, and addresses TMDL development. The information can be accessed on our website: <http://www.waterboards.ca.gov/losangeles>.

This Order and the accompanying Monitoring and Reporting Program (Attachment E) fosters implementation of this approach.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR § 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR § 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR § 122.44(d) specifies that WQBELs may be established using

USEPA criteria guidance under CWA section 304(a); proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information may be used; or an indicator parameter may be established.

A. Discharge Prohibitions

Discharge prohibitions in this Order are based on the requirements in section III.I of the 2015 California Ocean Plan.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Technology-based effluent limitations require a minimum level of treatment for industrial/municipal point sources based on currently available treatment technologies while allowing the Discharger to use any available control techniques to meet the effluent limits. The 1972 CWA required POTWs to meet performance requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level - referred to as "secondary treatment" - that all POTWs were required to meet by July 1, 1977. More specifically, section 301(b)(1)(B) of the CWA required that USEPA develop secondary treatment standards for POTWs as defined in section 304(d)(1). Based on this statutory requirement, USEPA developed national secondary treatment regulations which are specified in 40 CFR § 133. These technology-based regulations apply to all POTWs and identify the minimum level of effluent quality to be attained by secondary treatment. The Discharger operates an FOTW that treats wastewater of similar quality to POTWs and includes similar treatment processes as POTWs. Since the operation of the Facility is comparable to a POTW, the Regional Water Board used BPJ to apply the secondary treatment standards to this facility. The secondary treatment standards were included in the previous order as technology-based effluent limitations and were therefore carried over in this Order.

2. Applicable Technology-Based Effluent Limitations

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR § 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and more stringent effluent limitations necessary to meet minimum federal technology-based requirements based on Secondary Standards at 40 CFR § 133 and Best Professional Judgment (BPJ) in accordance with 40 CFR § 125.3. Secondary treatment is defined in terms of three parameters – BOD₅20°C, TSS, and pH. The following summarizes the technology-based requirements for secondary treatment, which are applicable to the Facility:

Table F-7. Summary of TBELs in 40 CFR § 133.102

Parameter	Units	Effluent Limitations	
		Average Monthly	Average Weekly
BOD ₅ 20°C	mg/L	30	45
TSS	mg/L	30	45
Removal Efficiency for TSS	%	85	--
Removal Efficiency for BOD	%	85	--
pH	6.0 to 9.0 pH units		

Also, Table 2 of the 2015 Ocean Plan establishes the following technology-based effluent limitations, which are applicable to the Facility:

Table F-8. Summary of TBELs for POTWs established by the 2015 Ocean Plan

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Instantaneous Maximum
Oil & Grease	mg/L	25	40	75
TSS	mg/L	--	--	--
Settleable Solids	mL/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
Removal Efficiency for TSS	%	75	--	--
pH	6.0 to 9.0 pH units			

All technology-based effluent limitations from Order No. R4-2013-0111 for BOD₅20°C, TSS, oil and grease, settleable solids, pH, and turbidity are retained in this Order. Limitations for BOD₅20°C, TSS, and pH are based on secondary treatment standards established by the USEPA at 40 CFR § 133. Limitations for oil and grease, settleable solids, and turbidity are based on requirements in the 2015 Ocean Plan. The mass-based maximum daily effluent limitations were developed to satisfy ASBS requirements. The dilution ratio was not considered in the development of the technology-based effluent limitations.

The following table summarizes the technology-based effluent limitations for the discharge from the Facility:

Table F-9. Summary of TBELs

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD ₅ 20°C	mg/L	30	45	--	--	--
	lbs/day ²	6.3	9.4	19	--	--
	% removal	85	--	--	--	--
TSS	mg/L	30	45	--	--	--
	lbs/day ²	6.3	9.4	19	--	--
	% removal	85	--	--	--	--
Oil & Grease	mg/L	25	40	--	--	75
	lbs/day ²	5.2	8.3			15
Settleable Solids	mL/L	1.0	1.5	--	--	3.0
Turbidity	NTU	75	100	--	--	225
pH	6.0 to 9.0 pH units					

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA Section 301(b) and 40 CFR section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. Section 122.44(d)(1)(i) of 40

² The mass emission rates are calculated using 0.025 mgd consistent with the water quality-based limits in the previous permit: lbs/day = 0.00834 x Ce (effluent concentration, µg/L) x Q (flow rate, mgd). During wet-weather storm events in which the flow exceeds 0.025 mgd, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

CFR requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. USEPA has applied CWA section 403(c) and 40 CFR § 125, Subpart M, following 40 CFR § 122.

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other State plans and policies, or any applicable water quality standards contained in the Ocean Plan. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan and Ocean Plan establish the beneficial uses and Water Quality Objectives for ocean waters of the State. The beneficial uses of the receiving waters affected by the discharge have been described previously in this Fact Sheet. The Basin Plan contains Water Quality Objectives for bacteria for water bodies designated for water contact recreation and the Ocean Plan contains water quality objectives for bacterial, physical, chemical, and biological characteristics, and radioactivity. The Water Quality Objectives from the Ocean Plan and Basin Plan were incorporated into this Order as either final effluent limitations (based on reasonable potential) or receiving water limitations.

3. Expression of WQBELS

Pursuant to 40 CFR § 122.45(d)(2), for continuous discharges other than POTWs, all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall, unless impracticable, be stated as maximum daily and average monthly discharge limitations. This order includes maximum daily and average monthly effluent limitations for certain constituents, as referenced in 40 CFR § 122.45(d).

The WQBELs for marine aquatic life toxics contained in this Order are based on Table 1 water quality objectives contained in the 2015 Ocean Plan that are expressed as six-month median, daily maximum, and instantaneous maximum water quality objectives. However, in the existing Order (Order No. R4-2013-0111), the calculated effluent limitations based on 6-month median objectives for marine aquatic life toxics in the Ocean Plan were prescribed as average monthly effluent limitations. Applying the antibacksliding regulations, this Order retains the same approach and sets effluent limitations derived from six-month median water quality objectives for marine aquatic life toxics in the 2015 Ocean Plan as average monthly limitations. The 2013 Order included average monthly final effluent limitations based on the six-month median water quality objectives in the Ocean Plan and the average monthly final effluent limitations are retained in this Order for those pollutants that continue to have reasonable potential to exceed the water quality objectives to prevent backsliding.

4. Determining the Need for WQBELS

Order No. R4-2013-0111 contains effluent limitations for non-conventional and toxic pollutant parameters from Table 1 of the 2015 Ocean Plan. The need for effluent limitations based on water quality objectives from Table 1 of the 2015 Ocean Plan was

reevaluated in accordance with the Reasonable Potential Analysis (RPA) procedures contained in Appendix VI of the 2015 Ocean Plan. This statistical RPA method (RPcalc version 2.2) accounts for the averaging period of the water quality objective, accounts for and captures the long-term variability of the pollutant in the effluent, accounts for limitations associated with sparse data sets, accounts for uncertainty associated with censored data sets, and assumes a lognormal distribution of the facility-specific effluent data. The program calculates the upper confidence bound (UCB) of an effluent population percentile after complete mixing. In the evaluation employed in this Order, the UCB is calculated as the one-sided, upper 95 percent confidence bound for the 95th percentile of the effluent distribution after complete mixing. The calculated UCB_{95/95} is then compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation. For constituents that have an insufficient number of monitoring data or a substantial number of non-detected data with a reporting limit higher than the respective water quality objective, the RPA result is likely to be inconclusive. The Ocean Plan requires that the existing effluent limitations for these constituents be retained in the new Order, otherwise the permit shall include a reopener clause to allow for subsequent modification of the permit to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a water quality objective.

Using this statistical procedure, in combination with effluent data provided by the Discharger from January 2013 to March 2018, and minimum initial dilution ratio of 136:1 for Discharge Point 002, Regional Water Board staff have determined that all pollutants with final effluent limitations in the previous permit continue to exhibit reasonable potential. Therefore, the final effluent limitations from the previous permit were carried over for the following pollutants: total residual chlorine and TCDD equivalents. In addition, the following additional pollutants have reasonable potential to exceed Ocean Plan Water Quality Objectives and therefore, require effluent limitations: copper, zinc, and chronic toxicity.

In general, for constituents that have been determined to have no reasonable potential to cause, or contribute to, excursions of water quality objectives, no numerical limits are prescribed; instead a narrative statement to comply with all Ocean Plan requirements is provided and the Discharger is required to monitor for these constituents to gather data for use in RPAs for future Order renewals and/or updates.

Bacteria did not have reasonable potential to cause or exceed water quality standards and no WQBELs for bacteria are prescribed in this Order. Bacteria monitoring is required at offshore and shoreline monitoring locations to demonstrate that the 2015 Ocean Plan objectives are being met. The 2015 Ocean Plan includes receiving water limitations for bacteria within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports as determined by the Regional Water Board. DDW also sets minimum protective bacteriological standards for coastal waters adjacent to public beaches and for public water-contact sports areas in ocean waters. Receiving water monitoring between the outfall and the shoreline demonstrates compliance with the bacteria objectives. Fecal indicator bacteria, total coliform, and *Enterococcus* receiving water and final effluent results were below the single sample receiving water standards between 2013 and 2018. The fecal indicator bacteria and total coliform receiving water data demonstrate compliance with the 30-day geometric mean bacteria standards; however, the geometric mean could not be calculated since a single sample is collected during a calendar month for this facility. San Clemente Island is a remote facility that is not easily accessible and creates challenges in collecting weekly receiving water bacteria samples that have short holding times. In addition, the State Water Board recommended in their approval of the minimum dilution that weekly bacteria

monitoring at the shoreline nearest the outfall be conducted, assuming there are contact recreation and shellfish harvesting beneficial uses at the location. The Basin Plan lists the receiving water around San Clemente Island for contact recreation but not shellfish harvesting. As a result, the Regional Water Board reduced the required receiving water bacteria monitoring from weekly to monthly in the previous order. *Enterococcus* single sample receiving water data exceeded the geometric mean standard (35 MPN/ 100 mL) on two separate occasions in 2015 (36 MPN/ 100 mL) and 2017 (37 MPN/ 100 mL); however, *Enterococcus* final effluent monitoring was at or below the detection limit during these two months (2 MPN/100 mL). Since the final effluent monitoring data was in compliance with the geometric mean standards during the same months the receiving water exceeded the geometric mean standards, the cause of the exceedances in the receiving water is unclear and does not trigger reasonable potential for *Enterococcus*. Where bacteria objectives have been routinely exceeded at the shoreline in this region, the Regional Water Board has developed regulatory devices such as Total Maximum Daily Loads to address water quality impairments.

5. WQBEL Calculations

From the Table 1 water quality objectives in the 2015 Ocean Plan, effluent limitations are calculated according to the following equation for all pollutants, except for acute toxicity (if applicable):

$$C_e = C_o + D_m(C_o - C_s)$$

where

C_e = the effluent limitation ($\mu\text{g/L}$)

C_o = the water quality objective to be met at the completion of initial dilution ($\mu\text{g/L}$)

C_s = background seawater concentration ($\mu\text{g/L}$) (see Table below)

D_m = minimum probable initial dilution expressed as parts seawater per part wastewater

The D_m is based on observed waste flow characteristics, receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. In this Order, a dilution ratio of 136:1 has been applied to Discharge Point 002.

Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submerged outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally. As site-specific water quality data is not available, in accordance with Table 1 implementing procedures, C_s equals zero for all pollutants, except the following:

Table F-10. Pollutants with Background Seawater Concentrations

Constituent	Background Seawater Concentration (C_s)
Arsenic	3 $\mu\text{g/L}$
Copper	2 $\mu\text{g/L}$
Mercury	0.0005 $\mu\text{g/L}$
Silver	0.16 $\mu\text{g/L}$
Zinc	8 $\mu\text{g/L}$

The calculation of WQBELs for copper and ammonia are demonstrated below for Discharge Point 002, as examples:

Table F-11. Ocean Plan Water Quality Objectives (C_o) for Copper and Ammonia

Constituents	6-Month Median	Daily Maximum	Instantaneous Maximum	30 Day Average
Copper	3 µg/L	12 µg/L	30 µg/L	--
Ammonia	0.60 mg/L	2.4 mg/L	6 mg/L	--

Using the equation, $C_e = C_o + D_m(C_o - C_s)$, effluent limitations are calculated as follows before rounding to two significant digits. All calculations are based on discharge through Discharge Point 002 and, therefore, a dilution ratio (D_m) of 136:1 is applied.

Copper

$C_e = 3 + 136(3-2) = 139 \text{ µg/L}$ (prescribed as Average Monthly)

$C_e = 12 + 136(12-2) = 1,372 \text{ µg/L}$ (rounded to 1,370 µg/L prescribed as Daily Maximum)

$C_e = 30 + 136(30-2) = 3,838 \text{ µg/L}$ (rounded to 3,840 prescribed as instantaneous maximum)

Based on the implementing procedures described above, effluent limitations have been calculated for all Table 1 pollutants) from the 2015 Ocean Plan and incorporated into this Order when applicable.

6. Whole Effluent Toxicity (WET)

Whole Effluent Toxicity (WET) testing protects receiving waters from the aggregate toxic effect of a mixture of pollutants in the effluent or pollutants that are not typically monitored. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a short or a longer period and may measure a sublethal endpoint such as reproduction or growth in addition to mortality. A constituent present at low concentrations may exhibit a chronic effect; however, a higher concentration of the same constituent may be required to produce an acute effect. Because of the nature of discharges into the FOTW sewershed, toxic constituents (or a mixture of constituents exhibiting toxic effects) may be present in the effluent.

A total of 39 chronic WET tests were conducted on SCI WWTP final effluent between September 2013 and March 2018. Three exceedances of the maximum daily final effluent trigger were reported for chronic toxicity and the discharger conducted the required accelerated monitoring. Due to these violations, the discharge did exhibit reasonable potential to exceed the water quality objectives for chronic toxicity at Discharge Point 002 based on 2015 Ocean Plan procedures for calculating reasonable potential.

The 2013 permit contained a final effluent trigger for chronic toxicity at Discharge Point 002. Based on RPA, this Order contains a final effluent limitation for chronic toxicity for Discharge Point 002, expressed as a maximum daily effluent limitation.

The Ocean Plan addresses the application of chronic and acute toxicity requirements based on minimum probable dilutions (D_m) for ocean discharges. Following the 2015 Ocean Plan, dischargers are required to conduct chronic toxicity monitoring for ocean discharges with D_m factors ranging from 99 to 349 and Regional Water Boards may require acute toxicity monitoring in addition to chronic toxicity monitoring. Dischargers with D_m factors below 99 are required to conduct only chronic toxicity testing. The D_m for Discharge Point 002 is 136. Since D_m is between 99 and 349, chronic toxicity monitoring is required and has been assigned a final effluent limitation to Discharge Point 002. No

acute toxicity monitoring or final effluent limitations have been assigned to Discharge Point 002 consistent with 40 CFR § 122.44(d)(1)(v), the 2015 Ocean Plan, and because the chronic toxicity final effluent limitation is protective of both chronic and acute toxicity.

The 2015 Ocean Plan establishes a daily maximum chronic toxicity objective of $1.0 \text{ TUC} = 100/(\text{No Observed Effect Concentration (NOEC)})$, using a 5-concentration hypothesis test, and a daily maximum acute toxicity objective of $0.3 \text{ TUA} = 100/\text{LC50}$, using a point estimate model. This Order includes final effluent limitations using the Test of Significant Toxicity (TST) hypothesis testing approach. This statistical approach is consistent with the Ocean Plan in that it provides maximum protection to the environment since it more reliably identifies acute and chronic toxicity than the current NOEC hypothesis-testing approach (See 2015 California Ocean Plan, Section III.F and Appendix I).

On July 07, 2014, the Chief Deputy of the Water Quality Division announced that the State Water Board would be releasing a revised version of the Chronic Toxicity Plan for public comment within a few weeks. Regional Water Board staff awaits its release. Because effluent data exhibited reasonable potential to cause or contribute to an exceedance of the water quality objective for chronic toxicity, this Order contains a numeric chronic toxicity effluent limitation. Compliance with the chronic toxicity requirement contained in this Order shall be determined in accordance with section VII.J. Nevertheless, this Order contains a reopener to allow the Regional Water Board to modify the permit in the future, if necessary, to make it consistent with any new policy, plan, law, or regulation.

For this Order, chronic toxicity in the discharge is evaluated using a maximum daily effluent limitation that utilizes USEPA's 2010 TST hypothesis testing approach. The chronic toxicity effluent limitations are expressed as "Pass" for each maximum daily individual result.

In January 2010, USEPA published a guidance document titled *EPA Regions 8, 9 and 10 Toxicity Training Tool*, which among other things discusses permit limit expression for chronic toxicity. The document acknowledges that NPDES regulations at 40 CFR § 122.45(d) require that all permit limits be expressed, unless impracticable, as a Maximum Daily Effluent Limitation (MDEL) and an Average Monthly Effluent Limitation (AMEL) for dischargers other than POTWs. USEPA recommends establishing a Maximum Daily Effluent Limitation (MDEL) for toxic pollutants and pollutants in water quality permitting, including WET. For an ocean discharge, this is appropriate because the 2015 Ocean Plan only requires a MDEL and does not include Average Monthly Effluent Limitations for chronic toxicity (See 2015 California Ocean Plan, section II.D.7.).

The MDEL is the highest allowable value for the discharge measured during a calendar day or 24-hour period representing a calendar day. The AMEL is the highest allowable value for the average of daily discharges obtained over a calendar month. For WET, this is the average of individual WET test results for that calendar month. In June 2010, USEPA published another guidance document titled *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, June 2010), in which they recommend the following: "Permitting authorities should consider adding the TST approach to their implementation procedures for analyzing valid WET data for their current NPDES WET Program." The TST approach is another statistical option for analyzing valid WET test data. Use of the TST approach does not result in any changes to EPA's WET test methods. Section 9.4.1.2 of USEPA's *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/0136, 1995), recognizes that, "the statistical methods recommended in this manual are not the only possible methods of statistical analysis." The TST approach can be applied to acute

(survival) and chronic (sublethal) endpoints and is appropriate to use for both freshwater and marine EPA WET test methods.

The interpretation of the measurement result from USEPA's TST statistical approach (Pass/Fail) for effluent and receiving water samples is, by design, independent from the concentration-response patterns of the toxicity tests for samples when it is required. Therefore, when using the TST statistical approach, application of WPA's 2000 guidance on effluent and receiving waters concentration-response patterns will not improve the appropriate interpretation of TST results as long as all Test Acceptability Criteria and other test review procedures – including those related to Quality Assurance for effluent and receiving water toxicity tests, reference toxicant tests, and control performance (mean, standard deviation, and coefficient of variation) – described by the WET test methods manual and TST guidance, are followed. The 2000 guidance may be used to identify reliable, anomalous, or inconclusive concentration-response patterns and associated statistical results to the extent that the guidance recommends review of test procedures and laboratory performance already recommended in the WET test methods manual. The guidance does not apply to single concentration (IWC) and control statistical t-tests and does not apply to the statistical assumptions on which the TST is based. The Regional Water Board and USEPA will not consider a concentration-response pattern as sufficient basis to determine that a TST t-test result for a toxicity test is anything other than valid, absent other evidence. In a toxicity laboratory, unexpected concentration-response patterns should not occur with any regular frequency and consistent reports of anomalous or inconclusive concentration-response patterns or test results that are not valid will require an investigation of laboratory practices.

Any Data Quality Objectives or Standard Operating Procedure used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent or receiving water toxicity test measurement results from the TST statistical approach which include a consideration of concentration-response patterns and/or Percent Minimum Significant Difference (PMSDs) must be submitted for review by the Regional Water Board, in consultation with USEPA and the State Water Board's Quality Assurance Officer and Environmental Laboratory Accreditations Program (40 CFR § 122.44(h)). The PMSD criteria only apply to compliance for NOEC and the sublethal endpoints of the NOEC, and therefore are not used to interpret TST results.

D. Final Effluent Limitation Considerations

1. Anti-Backsliding Requirements

Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. Section 402(o)(1)/303(d)(4) of the Clean Water Act (CWA) provides statutory exceptions to the general prohibition of backsliding contained in CWA section 402(o)(1)/303(d)(4). The final effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, Order No. R4-2013-0111, with one exception. The final effluent limitations for DDT were removed because new monitoring data indicated that the final effluent did not have reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives.

2. Antidegradation Policies

This Order includes both narrative and numeric final effluent limitations, receiving water limitations, performance goals, and mass emission benchmarks to maintain the chemical, physical, and biological characteristics, and to protect the beneficial uses, of the receiving water. These requirements ensure that all water quality objectives are being met outside the zone of initial dilution, thereby maintaining the beneficial uses. The 2015 Ocean Plan allows for minimal degradation within the zone of initial dilution as long

as the water quality objectives are maintained just outside the zone of initial dilution. The minimal degradation permitted by the 2015 Ocean Plan is consistent with the antidegradation policy because it maintains maximum benefit to the people of the State, it will not unreasonably affect the present and anticipated beneficial uses, and it will not result in water quality less than that prescribed in the policies.

The final effluent limitations from the previous order have been retained in this Order because the pollutants continue to show reasonable potential to cause or contribute to an exceedance of the water quality objectives in the Ocean Plan.

This Order includes new final effluent limitations for copper, zinc, and chronic toxicity, in addition to the final effluent limitations from the previous permit for total residual chlorine, and TCDD equivalents. The final effluent limitations (and the reasonable potential analyses) are calculated using the dilution ratio of 136:1. Mass emission final effluent limitations continue to be based on the design flow rate of the treatment plant under the 2000 Order of 0.025 mgd to comply with ASBS requirements. As a result, both the quantity of the discharged pollutants and quality of the discharge are expected to remain relatively constant or improve during this permit term, consistent with antidegradation policies. The accompanying MRP requires continued data collection and if monitoring data show reasonable potential for a pollutant to cause or contribute to an exceedance of water quality objectives, the permit may be reopened to incorporate appropriate WQBELs. Such an approach ensures that the discharge will adequately protect the beneficial uses and conforms to antidegradation policies and antibacksliding provisions.

The performance goals are an additional incentive for the Discharger to maintain the current treatment quality since then performance goals set final effluent targets for the Discharger to meet based on current performance. Some performance goals in this Order are more stringent due to improved performance; however, the performance goals for some constituents have increased. Since the performance goals are based on performance and do not exceed the water quality objectives for the receiving water, the increase of any performance goal is not expected to result in additional degradation.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on biochemical oxygen demand, total suspended solids, settleable solids, pH, oil and grease, and turbidity. Restrictions on these pollutants are discussed in section IV.B.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum applicable federal technology-based requirements.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating individual water quality-based effluent limitations for priority pollutants are based on the 2015 Ocean Plan, which became effective on January 28, 2016. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA and applicable water quality standards.

Table F-12. Summary of Final Effluent Limitations for Discharge Point 002

Parameter	Units	Effluent Limitations ³				Performance Goal	Basis
		Average Monthly ⁴	Average Weekly	Maximum Daily ⁵	Instantaneous Maximum ⁶		
BOD ₅ 20°C	mg/L	30	45	--	--	--	Secondary treatment standard/ ASBS/ Existing
	lbs/day ⁷	6.3	9.4	19	--		
TSS	mg/L	30	45	--	--	--	Secondary treatment standard/ ASBS/ Existing
	lbs/day ⁷	6.3	9.4	19	--		
Removal Efficiency for BOD	%	85	--	--	--	--	Secondary treatment standard/ Existing
Removal Efficiency for TSS	%	85	--	--	--	--	Secondary treatment standard/ Existing
Temperature	°F	--	--	--	100	--	Thermal Plan/ Existing
pH	pH Unit	6.0 (instantaneous minimum) – 9.0 (instantaneous maximum)					Secondary treatment standard/ Existing
Oil and Grease	mg/L	25	40	--	75	--	Secondary treatment standard/ Existing
	lbs/day ⁷	5.2	8.3	--	15	--	
Settleable Solids	mL/L	1.0	1.5	--	3.0	--	Secondary treatment standard/ Existing

³ The minimum dilution ratio used to calculate effluent limitations for nonconventional and toxic pollutants for Discharge Point 002 is 136:1 for all pollutants (i.e. 136 parts seawater to one part effluent).

⁴ For intermittent discharges, the daily value used to calculate these average monthly values shall be considered to equal zero for days on which no discharge occurred.

⁵ The maximum daily effluent limitations shall apply to flow weighted 24-hour composite samples.

⁶ The instantaneous maximum effluent limitations shall apply to grab samples.

⁷ The mass emission rates are calculated using a maximum flow rate of 0.025 mgd, consistent with water-quality based limits in the previous permit.: lbs/day = 0.00834 x Ce (effluent concentration in µg/L) x Q (flow rate in mgd). During storm events when flow exceeds 0.025 mgd, the mass emission rate limitations shall not apply.